SURREBUTTAL TESTIMONY OF

DR. J. RANDALL WOOLRIDGE

ON BEHALF OF

THE SOUTH CAROLINA OFFICE OF REGULATORY STAFF

DOCKET NO. 2020-125-E

IN RE: APPLICATION OF DOMINION ENERGY SOUTH CAROLINA, INCORPORATED FOR ADJUSTMENT OF RATES AND CHARGES

Q. PLEASE STATE YOUR FULL NAME, ADDRESS, AND OCCUPATION.

A. My name is J. Randall Woolridge, and my business address is 120 Haymaker Circle, State College, PA 16801. I have previously filed Direct Testimony in this proceeding on November 10, 2020 on behalf of the South Carolina Office of Regulatory Staff ("ORS").

I. INTRODUCTION AND SUMMARY OF TESTIMONY

Q. WHAT IS THE SCOPE OF YOUR SURREBUTTAL TESTIMONY IN THIS PROCEEDING?

A. I am responding to the Rebuttal Testimony of Dominion Energy South Carolina, Inc. ("DESC" or "Company") witnesses Dr. James Vander Weide and Mr. Steven Fetter.

Q. WHAT ARE THE POSITIONS OF THE DIFFERENT PARTIES IN THE CASE REGARDING THE COST OF CAPITAL?

A. There are differences of opinion regarding DESC's capital structure, long-term debt cost rate, and return on equity ("ROE") between witnesses for ORS, the Company, and various intervenors. The alternative cost of capital positions of DESC and the intervenors who provided a cost of capital analysis are provided in Table 1. This table includes the

positions of witness Vander Weide, ORS, South Carolina Department of Consumer Affairs ("DCA") witness Mr. Aaron Rothschild, and U.S. Department of Defense and All Other Federal Executive Agencies ("DoD/FEA") witness Dr. Zhen Zhu.

Table 1
Alternative Cost of Capital Recommendations

DESC

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	46.65%	6.46%	3.01%
Preferred Stock	0.00%	6.75%	0.00%
Common Equity	53.35%	10.25%	5.47%
Total Capital	**100.00%**		**8.48%**

ORS

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.00%	5.56%	2.78%
Preferred Stock	0.00%	6.75%	0.00%
Common Equity	50.00%	8.90%	4.45%
Total Capital	**100.00%**		**7.23%**

DCA

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	50.00%	6.46%	3.23%
Preferred Stock	0.00%	6.75%	0.00%
Common Equity	50.00%	8.63%	4.32%
Total Capital	**100.00%**		**7.55%**

DoD/FEA

Capital Source	Capitalization Ratio	Cost Rate	Weighted Cost Rate
Long-Term Debt	47.44%	6.46%	3.06%
Preferred Stock	0.00%	6.75%	0.00%
Common Equity	52.56%	9.10%	4.78%
Total Capital	**100.00%**		**7.85%**

Other intervenors in this proceeding who filed testimony touching on cost of capital components include Walmart and the South Carolina Energy Users Committee ("SCEUC").

Walmart witness Ms. Lisa Perry observes in her Direct Testimony that the national average commission-authorized ROE for investor-owned utilities from 2017 to present is 9.59% per S&P Global Market Intelligence ("S&P Global").[1] For vertically integrated utilities, witness Perry notes that the average authorized ROE from 2017 to present is 9.71%, while for the year-to-date the average is 9.56%.[2] SCEUC witness Mr. Kevin O'Donnell recommends in his Direct Testimony that the Public Service Commission of South Carolina ("Commission") authorize ORS's ROE recommendation and deny the Company's "request to substantially increase the embedded cost of debt."[3]

II. CAPITAL STRUCTURE AND LONG-TERM DEBT COST RATE

Q. WHAT ARE THE POSITIONS OF THE DIFFERENT PARTIES IN THE CASE WITH RESPECT TO CAPITAL STRUCTURE AND LONG-TERM DEBT COST RATE?

A. As noted above, DESC has proposed a capital structure consisting of 46.65% long-term debt, 0.00% preferred stock, and 53.35% common equity, and a long-term debt cost rate of 6.46%. I demonstrate that the Company's proposed capitalization with a common equity ratio of 53.35% has more equity and less financial risk than the capitalizations of other electric utilities, as well as those approved by other state regulatory commissions for electric utilities. As such, on behalf of ORS, I am using a capital structure with a common equity ratio of 50.0%, which is more reflective of the capitalizations of similar electric utilities. Witness Rothschild also proposes a capital structure with a common equity ratio of 50.0%, while witness Zhu proposes a capital structure with a common equity ratio of 52.56%.

[1] See Direct Testimony of Walmart witness Lisa Perry at p. 8, lines 21-23.

[2] See Direct Testimony of Walmart witness Lisa Perry at p. 9, lines 10-14.

[3] See Direct Testimony of SCEUC witness Kevin O'Donnell at p. 3, lines 13-17.

The Company's proposed long-term debt cost rate is 6.46%. ORS witness Lane Kollen recommends a long-term debt cost rate of 5.56%, while witnesses Rothschild and Zhu both recommend 6.46%.

Q. PLEASE SUMMARIZE THE EVIDENCE IN YOUR DIRECT TESTIMONY ON WHY THE COMPANY'S PROPOSED CAPITAL STRUCTURE INCLUDES MORE EQUITY AND LESS FINANCIAL RISK THAN OTHER ELECTRIC UTILITIES.

A. I performed several studies that demonstrate that DESC's proposed capitalization from investor-provided capital has much more equity and much less financial risk than the other electric utilities. These include the following:

1. As shown in page 1 of my Direct Testimony Exhibit JRW-2, the average common equity ratios of the Electric and Vander Weide Proxy Groups are 43.5% and 43.4%, respectively. As such, DESC's proposed capitalization from investor-provided capital has much more equity and much less financial risk than the average current capitalizations of the electric utility companies in the proxy groups;
2. On page 1 of my Direct Testimony Exhibit JRW-3, I provide DESC's and DESC's parent, Dominion Energy, Inc. ("D"), average quarterly capitalization ratios over the 2018-2020 time period including (Panel B) and excluding (Panel C) short-term debt. The Company's and D's average common equity ratios were 47.27% and 38.38% including short-term debt, respectively, and 49.83% and 41.79% excluding short-term debt. The much lower common equity ratio of D reflects the overall much greater amount of debt and greater financial risk of the parent company. As I discuss in my Direct Testimony, this is called double leverage. Regardless, the analysis shows that DESC is proposing a capital

structure with a higher common equity ratio and less financial risk than its recent history, and a much higher common equity ratio than its parent; and

3. The average authorized common equity ratio for electric utilities in the U.S. in the first three quarters of 2020 is 51.74%, according to Regulatory Research Associates.[4]

Q. GIVEN THAT DESC HAS PROPOSED A HIGHER EQUITY RATIO THAN (1) THE AVERAGE COMMON EQUITY RATIO OF OTHER ELECTRIC UTILITY COMPANIES, (2) ITS OWN AVERAGE COMMON EQUITY RATIO, (3) THE COMMON EQUITY RATIO OF ITS PARENT COMPANY, AND (4) THE AVERAGE AUTHORIZED COMMON EQUITY RATIO IN THE U.S., WHAT SHOULD THE COMMISSION DO IN THIS RATEMAKING PROCEEDING?

A. When a regulated utility's actual capital structure contains a high equity ratio, the options are: (1) to impute a more reasonable capital structure that is comparable to the average of the proxy group used to determine the cost of equity and to reflect the imputed capital structure in revenue requirements; and/or (2) to recognize the downward impact that an unusually high equity ratio will have on the financial risk of a utility and authorize a common equity cost rate lower than that of the proxy group.

Q. DID YOU IMPUTE A CAPITAL STRUCTURE WITH A MORE REASONABLE COMMON EQUITY RATIO IN ARRIVING AT YOUR RECOMMENDATION OF A 50.0% COMMON EQUITY RATIO?

A. Yes.

Q. HOW DID THE COMPANY ADDRESS YOUR RECOMMENDED CAPITAL STRUCTURE IN ITS REBUTTAL TESTIMONY?

[4] S&P Global Market Intelligence, RRA *Regulatory Focus*, 2020.

A. DESC has retained Mr. Steven Fetter to assess the cost of capital recommendations of the various intervenors. Witness Fetter's testimony addresses credit ratings, the opinions of credit rating agencies and others on the South Carolina Commission, and the capital structure and debt cost rate recommendations of the intervenors. Most of his testimony is general in nature. Witness Fetter addresses capital structure on pages 19-22 and believes that the Commission should adopt the proposed capital structure because it is based on actual company data as of May 2020 and claims that it supports continued improvement of the Company's credit profile.

Q. HAS WITNESS FETTER PERFORMED ANY STUDIES TO SUPPORT THE COMPANY'S PROPOSED CAPITAL STRUCTURE?

A. No. Instead, he offers two pages of general discussion on credit ratings and capital structure, but he performs no studies and points to no specific comments from credit reports to support his opinion. In short, he provides no empirical evidence to support the Company's capital structure with a common equity ratio of 53.35%.

Q. IS YOUR PROPOSED CAPITAL STRUCTURE, WITH A COMMON EQUITY RATIO OF 50.0%, CONSISTENT WITH THE COMMON EQUITY RATIO PRESCRIBED BY DOMINION ENERGY AS PART OF ITS FINANCIAL COMMITMENTS TO DESC?

A. Yes. In conjunction with Dominion Energy's acquisition of DESC, the parent company agreed to maintain a capital structure for DESC with a common equity ratio in the range of 50.0% to 55.0%. This is summarized below:[5]

I. Financial:

[5] Public Service Commission of South Carolina, Order No. 2018-804, Docket Nos. 2017-207E, 2017-305E, and 2017-370-E, Order Exhibit 1, p. 8 of 10, December 21, 2018.

1. Dominion Energy, through SCANA, will provide equity, as needed, to SCE&G with the intent of maintaining SCE&G's capital structure targeted within a range of 50%-55% equity that is consistent with existing regulatory guidelines and improving credit ratings.

Q. ARE YOU USING THE COMPANY'S PROPOSED LONG-TERM DEBT COST RATE?

A. No. Witness Kollen has reviewed the Company's long-term debt cost rate and discovered a number of errors in how DESC has adjusted the long-term debt cost rate to reflect Dominion's recapitalization of the Company. As such, I am using witness Kollen's corrected long-term debt cost rate of 5.56%.

III. RETURN ON EQUITY

Q. PLEASE SUMMARIZE WITNESS VANDER WEIDE'S UPDATED ROE STUDIES AND RECOMMENDATION.

A. Witness Vander Weide developed a proxy group of electric utility companies and employs Discounted Cash Flow ("DCF"), Capital Asset Pricing Model ("CAPM"), Risk Premium ("RP"), and Comparable Earnings equity cost rate approaches. Witness Vander Weide's updated equity cost rate estimates for DESC are summarized in Table 2. Based on his studies, he concludes that the appropriate equity cost rate is 9.7% for DESC's electric utility operations. He then makes an additional so-called "leverage" adjustment of 0.58% to account for the difference between the market value and book value capital structures of the companies in his electric group. This adjustment increases his ROE recommendation for DESC from 9.7% to 10.3%. As I discuss below, there are a number of issues with the inputs, applications, and results of his equity cost rate models.

Table 2
Vander Weide's Updated Equity Cost Rate Studies

Cost of Equity Model	Model Result
Discounted Cash Flow	9.0%
Ex Ante Risk Premium	10.0%
Ex Post Risk Premium	8.9%
CAPM – Historical	9.5%
CAPM – Forward looking	10.8%
Comparable Earnings	10.0%
Average	9.7%
Financial Risk Adjustment	0.58%
Recommended Allowed Return on Equity	10.3%

Q. PLEASE REVIEW YOUR EQUITY COST RATE STUDIES AND RECOMMENDATION.

A. I have applied the DCF and CAPM approaches to my proxy group of electric utility companies as well as witness Vander Weide's proxy group. My DCF and CAPM analyses indicate an equity cost rate range of 7.60% to 8.90%. Given that I rely primarily on the DCF approach and the Company's credit rating relative to the proxy groups, I recommend a ROE of 8.90% for DESC. This is at the top end of my equity cost rate range.

Q. WHAT ARE THE KEY DIFFERENCES IN THE EQUITY COST RATE STUDIES BETWEEN WITNESS VANDER WEIDE AND YOURSELF?

A. In my Direct Testimony, I identified the key differences of opinion on DESC's equity cost rate studies. These points are summarized below using witness Vander Weide's updated equity cost rate numbers, including updated analyses and results from his Rebuttal Testimony where appropriate:

- Capital Market Conditions – Witness Vander Weide's analyses, ROE results, and recommendations are based on assumptions of higher interest rates and capital costs.

However, as discussed below, interest rates and capital costs have remained at low levels in 2020, and utilities are taking advantage of these conditions to raise record amounts of capital;

- Leverage and Flotation Cost Adjustments – Witness Vander Weide estimates an equity cost rate for DESC of 9.70% in his Rebuttal Testimony using the DCF, Risk Premium, and CAPM approaches, and then has added a leverage adjustment of 58 basis points to account for the leverage difference between the market and book values of the capital structures of DESC and the companies in his proxy group. The DCF, Risk Premium, and CAPM equity cost rates also include a flotation cost adjustment of 20 basis points. Neither of these adjustments are warranted. With respect to the leverage adjustment, utility commissions have been using book value capital structures in the regulatory ratemaking process for decades and this is a well-known fact to utility commissions, investors, analysts, and customers. With respect to the 20-basis point flotation cost adjustment, there is no evidence that DESC has paid any specific equity flotation costs. Hence, there is no reason to provide the Company with additional revenues in the form of a higher ROE for expenses the Company does not incur.
- DCF Approach – Witness Vander Weide has overstated his reported DCF results in three ways:
  1. He has made an inappropriate adjustment to reflect the quarterly payment of dividends;
  2. most significantly, he has relied exclusively on the forecasted earnings per share ("EPS") growth rates of Wall Street analysts. I provide empirical evidence from studies that demonstrate the long-term earnings growth rates of Wall Street analysts

are overly optimistic and upwardly-biased. Consequently, in developing a DCF growth rate, I have reviewed both historic and projected growth rate measures and have evaluated growth in dividends, book value, and earnings per share; and

3. He has made an unwarranted 20 basis point flotation cost adjustment.

- Risk Premium Model – Witness Vander Weide also estimates an equity cost rate using a Risk Premium model. There are three issues with this approach:

1. With respect to the base rate, he has used an overstated A-rated utility bond yield of 4.40%, which is based on projected interest rates;
2. Witness Vander Weide has employed historical (*ex post*) and expected (*ex ante*) Risk Premium models and reports equity cost rates of 10.0% using the expected return approach and 8.90% using the historical RP approach. These figures include the 20 basis point flotation cost adjustment. In his expected Risk Premium approach, witness Vander Weide computes an expected stock return by applying the DCF model to the S&P utilities and the S&P 500 indexes and uses the EPS growth rate forecasts of Wall Street analysts as his growth rate. He then subtracts the yield on A-rated utility bonds. In his historic Risk Premium model, witness Vander Weide computes a historical risk premium as the difference in the arithmetic mean stock and bond returns. The stock returns are computed for different time periods for different indexes, including S&P and Moody's electric utility indexes as well as the S&P 500. As discussed below, there are numerous, well-known empirical issues with using historic stock and bond returns to estimate a risk premium. In addition, the expected return approach results in an overstated risk premium due to the well-

known, overly-optimistic, and upwardly-biased earnings per share growth rate forecasts of Wall Street analysts.

3. He has made an unwarranted 20 basis point flotation cost adjustment.

- CAPM Approach – The CAPM approach requires an estimate of the risk-free interest rate, beta, and the market or risk premium. There are three primary issues with witness Vander Weide's CAPM analysis:

1. Witness Vander Weide uses a risk-free rate of interest of 2.9% in his CAPM, which is based on the average projected rate on 20-year Treasury bonds by *Value Line* and the Energy Information Administration ("EIA"). However, the current rate on 20-year Treasury bonds is about 1.7%. As such, witness Vander Weide's risk-free interest rate is overstated.
2. He has employed a historical market risk premium of 7.20% and a projected market risk premium of 8.70%. These market risk premiums are larger than the market risk premiums: (1) indicated by historic stock and bond return data; and (2) found in the published studies and surveys of the market risk premium. In his historic risk premium model, witness Vander Weide computes a historical risk premium as the difference in the arithmetic mean stock and bond returns. As I discussed in my Direct Testimony, there are numerous, well-known empirical issues with using historic stock and bond returns to estimate a risk premium. In addition, I demonstrated in my Direct Testimony that the projected market risk premium of 8.70% is based on totally unrealistic assumptions of future economic and earnings growth and stock returns; and
3. He has made the unwarranted 20 basis point flotation cost adjustment.

- Comparable Earnings Approach – Witness Vander Weide also uses the Comparable Earnings approach to estimate an equity cost rate for the Company. Witness Vander Weide computes the expected ROE as forecasted by *Value Line* for his proxy group of electric utilities for 2020 and 2023-2025. As I discussed in my Direct Testimony, the "Comparable Earnings" approach does not measure the market cost of equity capital, is independent of most cost of capital indicators, ignores the research on the upward bias in *Value Line*'s earnings projections, and has several other empirical issues. Therefore, the Commission should ignore witness Vander Weide's "Comparable Earnings" approach in determining the appropriate ROE for DESC.

A. Leverage and Flotation Cost Adjustments

Q. PLEASE REVIEW WITNESS VANDER WEIDE'S ADJUSTMENTS.

A. Witness Vander Weide has added a leverage adjustment of 58 basis points to the estimated equity cost rates that he estimated using the DCF, RP, CAPM, and Comparable Earnings approaches. He has also included a 20 basis point increment to his DCF, CAPM, and Risk Premium equity cost rates to account for his flotation cost adjustment.

1. Leverage Adjustment

Q. PLEASE REVIEW WITNESS VANDER WEIDE'S LEVERAGE ADJUSTMENT.

A. Witness Vander Weide claims that a leverage adjustment is required to be added to DESC's ROE since (1) market values are greater than book values for utilities and (2) the overall rate of return is applied to a book value capitalization in the ratemaking process. As I discussed in my Direct Testimony, this adjustment is unwarranted for the following reasons:

1. The market value of a firm's equity exceeds the book value of equity when the firm is expected to earn more on the book value of investment than investors require. This

relationship is described very succinctly in the Harvard Business School case study cited in my Direct Testimony.[6] As such, the reason that market values exceed book values is that the company is earning a return on equity in excess of its cost of equity;

2. Despite witness Vander Weide's contention that this represents a leverage adjustment, there is no change in leverage. There is no need for a leverage adjustment because there is no change in leverage. The Company's financial statements and fixed financial obligations remain the same;

3. Financial publications and investment firms report capitalizations on a book value and not a market value basis; and

4. Witness Vander Weide has presented his leverage adjustment in many rate cases over many years before various regulatory commissions. In response to ORS' Fifth Continuing Request for Books, Records, and Other Information No. 5-22, witness Vander Weide was asked to list both (1) cases in which he employed this leverage adjustment and (2) cases in which a regulatory commission had adopted the same. In response to this request, Witness Vander Weide has not identified any cases where a regulatory commission adopted a leverage adjustment he proposed.[7]

Q. HOW HAS WITNESS VANDER WEIDE ADDRESSED HIS LEVERAGE ADJUSTMENT IN HIS REBUTTAL TESTIMONY?

A. Between pages 46-54 of his Rebuttal Testimony, witness Vander Weide makes a number of statements to support his adding a leverage adjustment of 58 basis points to the

[6] See the Direct Testimony of ORS witness Woolridge, pages B-2 – B-4 of Appendix B.

[7] ORS requested that DESC provide a list of cases in which a Commission has adopted witness Vander Weide's leverage adjustment, but the Company objected and indicated that information was not available. DESC also responded that witness Vander Weide did not maintain copies of commission orders for cases in which he testified and provided a list of cases over the past three years where witness Vander Weide proposed a leverage adjustment.

estimated equity. However, none of these statements support his so-called leverage adjustment. These include:

1. On pages 46-48, he discusses different situations where market value capital structures are used in finance. However, he provides no evidence whatsoever where market value capital structures are used in utility finance and regulatory rate making;
2. On page 47-48, he claims that he is not recommending a market value capital structure in this case. This is correct only due to the fact that he is not making a capital structure recommendation. The fact is that witness Vander Weide's financial leverage adjustment to his ROE recommendation is based on the difference between the market and book value capital structures of DESC and the proxy group. Therefore, while he is not recommending a market value capital structure, his financial risk adjustment to his ROE recommendation is based on the difference between the market and book value capital structures of DESC and the proxy group;
3. On page 50 of his Rebuttal Testimony, witness Vander Weide notes my statement that financial publications report capital structures on book values and not market values. In response to this observation, witness Vander Weide cites no publications that report capital structures on a market value basis; and
4. Finally, on pages 50-52 of his Rebuttal Testimony, witness Vander Weide takes issue with my statement that he has not provided any cases in which he has testified over the decades where a regulatory commission has adopted his so-called leverage adjustment.[8] Again, in his Rebuttal Testimony, he points to no cases over the decades in which a

[8] In response to ORS' Fifth Continuing Request for Books, Records, and Other Information No. 5-22, witness Vander Weide was asked to list both (1) cases in which he employed this leverage adjustment and (2) cases in which a regulatory commission had adopted the same. In response to this request, he failed to provide orders in which a regulatory commission has adopted his leverage adjustment.

regulatory commission has adopted his financial risk adjustment. Without any specific references, he cites Pennsylvania and Canada as venues where he claims a "financial leverage" adjustment "similar" to his has been employed in the past. Again, witness Vander Weide provides no specific references and commission orders to support his claims.

Q. IN YOUR OPINION, WHAT IS THE BOTTOM LINE REGARDING WITNESS VANDER WEIDE'S LEVERAGE ADJUSTMENT?

A. The bottom line is that DESC is asking for a 58 basis point increment to its ROE for witness Vander Weide's leverage adjustment. This is a significant revenue enhancement to the Company, increasing the Company's proposed ROE from 9.7% to 10.3%. However, as I indicated in my Direct Testimony, this is an unwarranted adjustment for which the Company cannot provide any evidence of any regulatory commission ever adopting for purposes of setting a ROE for a regulated public utility. As such, the Commission would be making an unprecedented and unsupported leap of faith should it elect to employ this mechanism in setting a ROE for DESC.

2. Flotation Cost Adjustment

Q. PLEASE DISCUSS WITNESS VANDER WEIDE'S ADJUSTMENT FOR FLOTATION COSTS.

A. Witness Vander Weide includes a flotation cost adjustment of 20 basis points in addition to his DCF, Risk Premium, and CAPM results in developing his ROE recommendation for DESC. As I stated in my Direct Testimony, this is erroneous for several reasons:

1. Witness Vander Weide has not identified any flotation cost for DESC. Therefore, he is attempting to seek higher revenues in the form of a higher ROE for expenses that he has not identified;
2. It is commonly argued that a flotation cost adjustment (such as that used by the Company) is necessary to prevent the dilution of the investment of the existing shareholders. However, as I discussed in my Direct Testimony, since the market-to-book ratios for electric utility companies are over 1.95X, any flotation costs that are actually paid do not result in a dilution of shareholder interests;[9] and
3. Flotation costs are expenses related to issuing new shares to investors. The majority of these costs are in the form of an underwriting spread, which is effectively the difference between the price the investment banker receives from investors and the price the investment banker pays to the company. Since these costs, as well as similar costs like brokerage fees, are investor costs that are not normal operating or financing costs, these are not recovered through the regulatory process.

Q. HOW HAS WITNESS VANDER WEIDE ADDRESSED HIS FLOTATION COST ADJUSTMENT IN HIS REBUTTAL TESTIMONY?

A. Between pages 46-54 of his Rebuttal Testimony, witness Vander Weide provides an analysis that he claims justifies his flotation cost adjustment. However, this analysis misses a very big point: DESC has provided no evidence that it has incurred any flotations costs. Hence, as noted previously, the Company is asking for additional revenues in the form of flotation costs for an expense that DESC has not incurred.

Q. PLEASE SUMMARIZE YOUR ASSESSMENT OF WITNESS VANDER WEIDE'S

[9] See Direct Testimony of ORS witness Woolridge at p. 67.

LEVERAGE AND FLOTATION COST ADJUSTMENTS AND HIS ROE RECOMMENDATION.

A. As discussed previously, I believe that witness Vander Weide's leverage adjustment of 58 basis points and flotation cost adjustment of 20 basis points are erroneous and unwarranted. If the Commission rejects these two adjustments, then witness Vander Weide's updated ROE of 10.3% should be adjusted downwards by 78 basis points, reflecting the deduction of both his leverage and flotation cost adjustments, resulting in a ROE of 9.5%.

B. DCF Approach

Q. PLEASE SUMMARIZE WITNESS VANDER WEIDE'S DCF ESTIMATES.

A. Witness Vander Weide provides his updated DCF results in Exhibit No. __(JVW-1 Rebuttal). In the traditional DCF approach, the equity cost rate is the sum of the dividend yield and expected growth. Witness Vander Weide adjusts the spot dividend yield to reflect the quarterly payment of dividends. Witness Vander Weide uses one measure of DCF expected growth - the projected EPS growth rate. He uses the EPS growth rate forecasts from Wall Street analysts as provided by the Institutional Brokers' Estimate System ("I/B/E/S"). He also includes a flotation cost adjustment of 5%. Based on his analyses, witness Vander Weide reports a DCF equity cost rate for the group of 9.0%.

Q. WHAT ARE THE ERRORS IN WITNESS VANDER WEIDE'S DCF ANALYSES?

A. As I stated in my Direct Testimony, there are three errors in witness Vander Weide's DCF analysis: (1) the quarterly dividend yield adjustment is excessive; (2) the projected DCF growth rate is based entirely on overly optimistic and upwardly-biased EPS growth rate estimates of Wall Street analysts; and (3) the flotation cost adjustment is inappropriate. I previously addressed flotation costs. The other issues are discussed below.

1. DCF Dividend Yield Adjustment

Q. PLEASE DISCUSS WITNESS VANDER WEIDE'S ADJUSTMENT TO THE DIVIDEND YIELD TO REFLECT THE QUARTERLY PAYMENT OF DIVIDENDS.

A. Witness Vander Weide adjusts his spot dividend yields to account for the quarterly payment of dividends, which he claims is necessary to account for the time value of money.

Q. WHAT IS WITNESS VANDER WEIDE'S RESPONSE TO YOUR CRITICISMS REGARDING HIS DIVIDEND YIELD ADJUSTMENT?

A. Between pages 19-23 of his Rebuttal Testimony, witness Vander Weide discusses the dividend yield adjustment. He makes the claim that I used an annual dividend payment DCF model, while he states that he used a quarterly DCF model. He claims that my model assumes companies pay dividends on an annual basis and not on a quarterly basis.

Q. DO YOU AGREE WITH WITNESS VANDER WEIDE'S ASSESSMENT OF YOUR DCF MODEL?

A. No. Obviously, most companies pay dividends on a quarterly basis. And, contrary to witness Vander Weide's criticism, my version of the DCF model does not presume that companies pay dividends only once a year. As discussed by Professor Myron Gordon, who is often given credit for extending the use of the DCF model in a regulatory setting, the appropriate dividend yield adjustment for growth in the DCF model is the expected dividend for the next quarter multiplied by four.[10] However, in applying the DCF model, analysts adjust the current dividend for growth over the coming year as opposed to the

[10] Federal Communications Commission, Docket No. 79-05, *Petition for Modification of Prescribed Rate of Return*, Direct Testimony of Myron J. Gordon and Lawrence I. Gould, p. 62 (Apr. 1980).

coming quarter. This is because firms tend to announce changes in dividends at different times during the year. Consequently, it is common for analysts to adjust the dividend yield by some fraction of the long-term expected growth rate. As discussed in my Direct Testimony, I adjust the dividend yield by one-half (1/2) of the expected growth so as to reflect growth over the coming year. This is the approach employed by the Federal Energy Regulatory Commission ("FERC").[11]

Witness Vander Weide's approach presumes that investors require additional compensation during the coming year because dividends are paid out quarterly instead of being paid annually in a lump sum. Therefore, he compounds each dividend to the end of the year using the long-term growth rate as the compounding factor. The error in this logic and approach is that the investor receives the money from each quarterly dividend and has the option to reinvest it as he or she chooses. This reinvestment generates its own compounding and is outside of the dividend payments of the issuing company. Witness Vander Weide's approach serves to duplicate this compounding process, thereby inappropriately inflating the return to the investor.

2. Analysts' EPS Growth Rate Forecasts

Q. ON PAGES 22-26 OF HIS REBUTTAL TESTIMONY, WITNESS VANDER WEIDE CONTESTS YOUR CLAIM THAT THE PROJECTED GROWTH RATES OF WALL STREET ANALYSTS AND *VALUE LINE* ARE OVERLY OPTIMISTIC AND UPWARDLY BIASED. PLEASE RESPOND.

A. On page 25 of his Rebuttal Testimony, witness Vander Weide cites nine different studies that he claims conclude that analysts' EPS growth rate forecasts are unbiased. This

[11] Opinion No. 414-A, *Transcontinental Gas Pipe Line Corp.*, 84 FERC ¶61,084 (1998).

conclusion is in error for two reasons. First, these articles are dated – some going back over thirty years – and do not reflect current research on the topic. In my Direct Testimony, I cited several more recent articles that highlight the upward bias in analysts' EPS growth rate estimates. Second, and more importantly, these studies evaluate the accuracy of annual EPS estimates, not the long-term EPS growth rates that witness Vander Weide and I use in our DCF analyses. Hence, the conclusions for these studies that analysts' EPS estimates are unbiased pertain to just the short-term estimates of EPS and not the long-term EPS growth rate forecasts.

Q. IN HIS REBUTTAL TESTIMONY, WITNESS VANDER WEIDE ALSO DEFENDED HIS 1988 STUDY OF ANALYSTS' EPS FORECASTS. PLEASE RESPOND.

A. Witness Vander Weide defends the study on pages 23-24 of his Rebuttal Testimony. In the 1988 study, witness Vander Weide performed a linear regression of a company's stock price to earnings ratio (*P/E*) on the dividend yield payout ratio (*D/E*), alternative measures of growth (*g*), and four measures of risk (beta, covariance, r-squared, and the standard deviation of analysts' growth rate projections). His results indicated that regressions measuring growth as analysts' forecasted EPS growth were more statistically significant than those using various historic measures of growth. Consequently, he concluded that analysts' growth rates are superior measures of expected growth.

There are several issues with the study. First, it was published more than 30 years ago, used a sample of only 65 companies, and evaluated a three-year time period (1981-1983) that occurred nearly 40 years ago. Since that time, many more exhaustive studies have been performed using significantly larger data bases and, from these studies, much

has been learned about Wall Street analysts and their stock recommendations and earnings forecasts. In addition, there are several errors that invalidate the results of witness Vander Weide's study. The primary error in the study is that his regression model is mis-specified. As a result, he cannot conclude whether one growth rate measure is better than the other. The misspecification results from the fact that witness Vander Weide did not actually employ a modified version of the DCF model. Instead, he used a "linear approximation."

In his Rebuttal Testimony at page 23, witness Vander Weide admits that he used the approximation and did not have to measure the investors' required return (*k)* directly. Instead, he used some proxy variables for risk and there can be an interaction between growth (*g*) and investors' required return (*k*), which could lead him to erroneously conclude that one growth rate measure is superior to others. Due to this problem, analysts' EPS forecasts may be upwardly biased and still appear to provide better measures of expected growth. In addition, witness Vander Weide does not use both historic and analysts' projections for growth rate measures in the same regression. As a result, it is possible that both historic data and forecasts should be used together to measure expected growth.

C. Risk Premium ("RP") Approach

Q. PLEASE REVIEW WITNESS VANDER WEIDE'S UPDATED RISK PREMIUM ANALYSES.

A. On pages 28-38 of his Rebuttal Testimony, witness Vander Weide discusses his Risk Premium approach. He also updates his equity cost rate estimates with his expected (*ex ante*) and historical (*ex post*) Risk Premium models. The updated Risk Premium results indicate equity cost rates of 10.0% using the expected return approach and 8.9% using the historical return approach.

Q. WHAT ERRORS HAVE YOU IDENTIFIED WITH WITNESS VANDER WEIDE'S RISK PREMIUM ANALYSES?

A. The errors in witness Vander Weide's RP equity cost rate approaches include:

1. an inflated base interest rate;
2. excessive risk premiums in both his *ex ante* and historical approaches; and
3. the inclusion of a flotation cost adjustment of 0.20%.

Q. PLEASE DISCUSS WITNESS VANDER WEIDE'S DEFENSE OF HIS RISK PREMIUM APPROACH INCLUDED IN HIS REBUTTAL TESTIMONY.

A. Witness Vander Weide provides an extended discussion of the Risk Premium approach in his Rebuttal Testimony. However, his defense does not correct the fundamental flaws that were discussed in my Direct Testimony. These issues include:

1. In his Rebuttal Testimony, witness Vander Weide uses a projected yield on A-rated utility bonds of 4.40%. This yield is well above current market rates. As shown on page 1 of my Direct Testimony Exhibit JRW-5, the current yield on long-term, A-rated public utility bonds is below 3.0%. As such, his base interest rate is vastly overstated and yet he still provides no sound basis for using this overstated rate in his Rebuttal Testimony. In fact, using the current yield on A-rated utility bonds of about 3.0%, witness Vander Weide's *ex ante* and *ex post* Risk Premium equity cost rates would actually be 8.6% and 7.5%, respectively; and
2. In his Rebuttal Testimony, witness Vander Weide uses an *ex ante* risk premium of 5.63% and an *ex post* risk premium of 4.35%. The major issue with the *ex ante* risk premium is that it is based on applying the DCF model to a group of electric utility companies on a monthly basis over the 1998-2019 time periods. He employs the EPS

growth rate forecasts of Wall Street analysts as the DCF growth rate. The primary error in this approach is that witness Vander Weide uses the EPS growth rate forecasts of Wall Street analysts as the one and only measure of growth in the DCF model. The errors in this approach were addressed in my Direct Testimony.[12] In addition, as discussed above, witness Vander Weide has cited outdated and erroneous studies on the accuracy of analysts' EPS growth estimates to contend that these forecasts are not overly optimistic and upwardly biased. With respect to the historic Risk Premium approach, I discussed numerous empirical issues in my Direct Testimony concerning the use of historical returns to estimate an expected risk premium. Witness Vander Weide replies to these in his Rebuttal Testimony. Had witness Vander Weide used the current long-term yield on A-rated utility bonds of 3.0%, his risk premium results would have yielded a 7.5% ROE for his historical Risk Premium study.

D. CAPM Approach

Q. PLEASE DISCUSS WITNESS VANDER WEIDE'S UPDATED CAPM.

A. Witness Vander Weide discusses his CAPM on pages 15-17 of his Rebuttal Testimony and reports historical and forward-looking CAPM equity cost rates of 9.5% and 10.8%. In his updated CAPM, witness Vander Weide uses a projected long-term risk-free rate of 2.90%, an average beta of 0.87 for his group as provided by *Value Line*, and historical and forward-looking market risk premiums of 7.2% and 8.7%, respectively. Witness Vander Weide's also adds a flotation cost adjustment of 20 basis points to his CAPM results.

Q. WHAT ARE THE ERRORS IN WITNESS VANDER WEIDE'S UPDATED CAPM.

[12] See Direct Testimony of ORS witness Woolridge at pp. 77-78.

A. In my Direct Testimony, I highlighted the errors in witness Vander Weide's initial CAPM analysis. The numbers below are the errors in his updated CAPM:

1. the risk-free rate of 2.9%;
2. the historic and expected market risk premiums of 7.2% and 8.7%, respectively; and
3. the flotation cost adjustment of 0.20%.

Witness Vander Weide does not address these issues to any significant degree in his Rebuttal Testimony. The risk-free interest rate of 2.9%, which is the average projected rate on 20-year Treasury bonds by *Value Line* and EIA, remains well over 100 basis points above the current 20-year Treasury bond yield. This historic and expected market risk premiums of 7.2% and 8.7% are subject to the same errors addressed in my Direct Testimony. Most significantly, the expected market risk premium is based on applying the DCF model to the S&P 500 to get an expected stock market return. As discussed in my Direct Testimony, this is overstated because it is based on the overly optimistic projected EPS growth rates of Wall Street Analysts. Overall, witness Vander Weide's historical and forward-looking market risk premiums are in excess of market risk premiums: (1) found in studies of the market risk premium by leading academic scholars; (2) produced by analyses of historic stock and bond returns; and (3) found in surveys of financial professionals. The market risk premium results of these studies were presented on page 6 of my Direct Testimony Exhibit JRW-8.

E. Comparable Earnings Approach

Q. PLEASE DISCUSS WITNESS VANDER WEIDE'S UPDATED COMPARABLE EARNINGS ANALYSIS.

A. Witness Vander Weide discusses his Comparable Earnings approach on pages 44-46 of his Rebuttal Testimony and reports an updated equity cost rate of 10.0%. Witness Vander

Weide computes the expected ROE as forecasted by *Value Line* for his proxy group of electric utility companies for 2020 and 2023-2025.

Q. WHAT ARE THE ERRORS IN WITNESS VANDER WEIDE'S COMPARABLE EARNINGS APPROACH?

A. I identified a number of significant errors with witness Vander Weide's Comparable Earnings approach in my Direct Testimony. These issues include:

1. Witness Vander Weide's Comparable Earnings Approach Does Not Measure the Market Cost of Equity Capital – As indicated by Professor Roger Morin, a long-time rate of return witness for utility companies, "More simply, the Comparable (Expected) Earnings standard ignores capital markets. If interest rates go up 2% for example, investor requirements and the cost of equity should increase commensurably, but if regulation is based on accounting returns, no immediate change in equity cost results."[13]
2. Changes in ROE Ratios do not Track Capital Market Conditions – As also noted by Dr. Morin, "[t]he denominator of accounting return, book equity, is a historical cost-based concept, which is insensitive to changes in investor return requirements. Only stock market price is sensitive to a change in investor requirements. Investors can only purchase new shares of common stock at current market prices and not at book value."[14]

[13] Roger Morin, *New Regulatory Finance* (2006), p. 293.

[14] *Id.*

3. The Comparable Earnings Approach is Circular – The ROE ratios for the proxy companies are not determined by competitive market forces, but instead are largely the result of federal and state rate regulation, including the present proceedings.

4. The Proxies' ROEs Reflect Earnings on Business Activities that are not Representative of DESC's Rate-Regulated Utility Activities – The numerators of the proxy companies' ROEs include earnings from business activities that are riskier and produce more projected earnings per dollar of book investment than does the regulated electric business. These include earnings from unregulated businesses such as merchant generation, construction services, and other energy services.

Q. HOW DOES WITNESS VANDER WEIDE DEFEND HIS COMPARABLE EARNINGS APPROACH IN HIS REBUTTAL TESTIMONY?

A. As a practical matter, witness Vander Weide does not provide a defense in his Rebuttal Testimony. On page 44 of his Rebuttal Testimony, he acknowledges that the approach does not measure the cost of equity capital. To defend his use of this approach, ironically, he uses a quote from Dr. Morin's book, which is the same book that I cited above to highlight the errors in using this approach. In the quote used by witness Vander Weide, Dr. Morin acknowledges that the approach "does not square well with economic theory" but he nonetheless calls it "meritorious." Dr. Morin is a well-known utility company rate of return witness. Given these conflicting quotes, the question becomes does Dr. Morin really believe that the approach should be used to set a utility's ROE? I recently testified in a case in Washington involving Puget Sound Energy, a case in which Dr. Morin

also testified. The bottom line is that Dr. Morin does not use the expected earnings approach in estimating the cost of equity capital for a public utility.[15]

Q. WILL YOU UPDATE YOUR SURREBUTTAL TESTIMONY BASED ON INFORMATION THAT BECOMES AVAILABLE?

A. Yes. ORS reserves the right to revise its recommendations via supplemental testimony should new information not previously provided by the Company, or other sources become available.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes, it does.

[15] See PSE-Exh-RAM-01T-6-20-19, Washington Utilities and Transportation Commission vs. Puget Sound Energy, Docket Nos UE-190529 and UG-190530, June 2019.